

Title (en)
ELECTRIC POWER STEERING DEVICE

Title (de)
ELEKTRISCHE SERVOLENKVORRICHTUNG

Title (fr)
DISPOSITIF DE DIRECTION ASSISTÉE ÉLECTRIQUE

Publication
EP 3196098 B1 20190605 (EN)

Application
EP 15873137 A 20151224

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Abstract (en)
[origin: EP3196098A1] [Problem] An object of the present invention is to provide a high-performance electric power steering apparatus that constitutes a control system based on a physical model, constitutes a model-following control that an output (a distance to a rack end) of a controlled object follows-up to a reference model, eliminates or reduces the occurrences of a noisy sound and a shock force at an end hitting without giving any uncomfortable steering feeling to a driver, and eliminates or reduces the shock force by changing model parameters and control parameters for a feed-back control section. [Means for solving the problem] The electric power steering apparatus includes a model-following control section that includes a feed-back control section which sets a viscoelastic model as a reference model within a predetermined angle at front of a rack end. The feed-back control section comprises a feed-back element to calculate a target rack displacement based on an input-side rack axial force and a control element to output an output-side rack axial force based on a position deviation between the target rack displacement and a rack displacement.

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